Spiritual, religious and personal beliefs are important and distinctive when assessing quality of life in health: a comparison of theoretical models.

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Running Title: Models of spiritual quality of life in health

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Abstract

Objectives The study investigates theoretical debates on the contribution of spiritual, religious and personal beliefs to quality of life (QoL) in health, by examining contrasting models.

Design & Method: The WHOQOL-SRPB assesses QoL relating to spiritual, religious, and personal beliefs (SRPB) where 33 QoL facets are scored in 6 domains, of which SRPB is one. The measure was completed by a heterogeneous sample of 285 sick and well people representing a cross-section of religious, agnostic and atheist beliefs in UK, and structured for gender (52% female) and age (mean 47 years).

Results: No evidence was found to support the model of spiritual QoL as a concept that overarches every other QoL domain. Confirmatory factor analysis showed that SRPB is an integral concept to overall QoL, with a very good fit (Comparative Fit Index = .99). Spiritual QoL made a significant, relatively independent contribution, similar to the other five domains (β = .68). Spiritual QoL is most closely associated with the psychological domain, particularly hope and optimism and inner peace; two of the nine SRPB facets. Spiritual QoL, but not most other aspects of QoL, is higher for religious people.

Conclusion: The results explain theoretical confusion arising from previous research. Spiritual QoL makes a significant and distinctive contribution to QoL assessment in health and should be assessed routinely in health care populations.

Key words: health, quality of life, spiritual, assessment, WHOQOL-SRPB

Introduction

In recent years, growing research on spiritual health has led the World Health Assembly (1998) to consider incorporating spiritual well-being into the WHO definition of health. Spiritual and religious beliefs provide resources for coping with illness (e.g. Pargament, 1997; O'Connor, Wicker & Germino,1990; Johnston & Spilka, 1991), and can change after diagnosis (e.g. Ferrell, Grant & Schmidit et al.,1992; Reed,1992; Andrykowski, Curran, McGrath, et al,1996). However, much research on spiritual health has focussed on processes, and outcomes, like quality of life (QoL) have been less well explored or assessed. Where they exist, existential components of QoL assessments have drawn little attention beyond specific life-threatening illnesses, particularly cancer, (e.g. Functional Assessment of Cancer Therapy - General (FACT-G), Cella, Tulsky et al,1993; Functional Assessment of Chronic Illness Therapy - Spiritual well-being (FACIT-Sp), Peterman, Fitchett, Brady, Hernandez and Cella, 2002; Skalen zur Erfassng von Lebensqualitat bei Tumorkranken (SELT); van Wegberg, Bacchi, Heusser et al,1998). However, recently there has been growing interest in HIV/AIDS (e.g. McGill Quality of Life Questionnaire (MQoL); Cohen & Mount,1995; O'Connell, Saxena & the WHOQOL-HIV Group, 2003); palliative care (e.g. Hospice Index (HQLI); McMillan & Mahon,1994; Palliative Care Outcomes Scale (POS) Higginson & Donaldson, 2004), and the end-of-life (e.g. Quality of life in Cancer Survivors instrument (QoL-CS); Ferrell, Hassey et al,1995). A few instruments designed for chronic diseases like arthritis, have also been adapted (e.g. McMaster Health Index Questionnaire (MHIQ); Chambers, McDonald & Tugwell, 1982). Informed by a biopsychosociospiritual model (Haitt, 1986; Katerndahl & Oyiriaru, 2007), several standardised measures are now becoming available for use in generic populations to assess spiritual, religious and/or existential issues, alongside more

acceptable physical, psychological and social domains (see O'Connell & Skevington, 2007 for a review).

Although there are some notable exceptions (e.g. Albrecht & Develiger, 1999), spiritual QoL has not been widely investigated or assessed for several reasons. Firstly, there are considerable individual differences concerning the perceived importance of spiritual QoL (McGee, O'Boyle, Hickey, et al, 1991). Secondly, some researchers have seen spiritual QoL assessment as 'too distal' to mainstream health care objectives (e.g. Aaronson, 1990). Thirdly, although assessment is increasingly accepted for life-threatening diseases (Cohen & Mount, 2000), there is less agreement about its application in sick and well populations generally. However data from 15 cultures shows that spiritual QoL is important in populations heterogeneous for health status and disease condition (Saxena, Carlson, Billington et al, 2001). These cross-cultural findings indicate that it would be 'unwise' to continue to ignore this domain in assessment (Cohen & Mount, 2000).

Although spiritual and psychosocial QoL have been theoretically delineated, ambiguity remains (Koenig, McCullough & Larson, 2001; Miller, 1999). Researchers have dealt with this in different ways. In some QoL measures, spiritual and religious items are embedded in the assessment of psychological or social domains (e.g. Ferrans and Powers, 1992), so implicitly acknowledging its relevance, but not distinguishing it in scoring. Goddard's (2001) says that the failure to differentiate these dimensions in assessment has contributed to the continued neglect or denial of spiritual issues in clinical practice.

Other researchers assess spiritual QoL as one of several co-equal domains. During the development of the WHOQOL-100, a spiritual domain was included after focus groups

of users world-wide stated it was important to QoL. This domain was later endorsed by cross-cultural survey data (WHOQOL Group, 1995; 1998a).

Another view is that spiritual and religious components, like faith and meaning in life, assess mental health or psychological well-being (Koenig, et al., 2001; Brady, Cella, Mo, et al., 1997). Koenig argues that spiritual components are contaminated because reports about comfort and connectedness inform on spiritual well-being. Koenig et al see measures of moral values and forgiveness as being concerned more with mental than spiritual health. They see spiritual health as being already well described by existing positive human traits in mental health, concluding that it is therefore a tautological and "useless" concept (Koenig et al., 2001).

However others show that although spirituality is indeed related to psychological well-being, it remains distinctive. Brady, Peterman, Fichett, et al (1999) found that meaning in life and inner peace were associated with health-related QoL, even when adjustments were made for social desirability, mood and emotional state. This suggests that existential concerns are unique components of overall QoL that cannot be adequately assessed by affective well-being (e.g. Ferrell, Hassey & Grant, 1995), and we agree with this perspective.

Irrespective of the position of spiritual beliefs within QoL, it is unclear how these issues relate to the overall concept. Some researchers theorise that spiritual issues provide a personal, overarching perspective that influences every single area of QoL (Raeburn & Rootman, 1996; Ferrell, 1990; Nolan & Mock, 2004; Szaflaski, Ritchey, Leonard, Mrus,

Peterman, Ellison, McCullogh & Tsevat; 2006). However, spirituality as a superordinate construct awaits an empirical test.

There is also disagreement about whether spiritual well-being is part of QoL, or detached from it. Reasons for its exclusion include its failure to 'factor neatly' with conventional dimensions (Ferrell, 1990). In some studies, spiritual and religious QoL correlate moderately with other domains and overall QoL (Raeburn & Rootman, 1996; Ferrell, 1990). In others, spiritual issues exceed the contributions of other domains, particularly social (e.g. Brady et al., 1999). Yet others find that spiritual QoL is dissociated from physical QoL (Tate, Barth, Perna, et al., 1997; Skevington, 1998). Some studies report that existential concerns correlate positively with overall QoL but not with other domains (Cohen & Mount, 2000). Others do not find any significant association between spiritual QoL and other health domains (Pratheeppawanit, Salek & Finlay, 1999; Holland, Passik, Kash, et al,1999).

In summary, there is considerable conceptual confusion arising from mixed results. Although religious and spiritual QoL are studied in terminal illness, these findings may not be generalisable to broader populations. Typically the variance in positive findings is small, and analyses uncontrolled for confounding effects. Few measures separate religious from spiritual QoL, despite continued calls (Rippentrop, Altmaier and Burns, 2006). Where they are separate, spirituality is inconsistently assessed, and psychometric properties are not always available. Furthermore, some existing instruments are biased towards specific beliefs systems, rather than covering a full range.

We are now better able to investigate aspects of this debate in health due to the availability of the WHOQOL-SRPB that assesses religious, spiritual and personal beliefs in QoL (WHOQOL-SRPB Group, 2006). Here QoL is defined as 'An individual's perception of their position in life, in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns' (WHOQOL Group, 1994). The purpose of the present research was to use this measure to compare different models of spiritual QoL, to inform theoretical and methodological debate, and through the use of this generic measure, to consider its potential for routine use in clinical practice.

Several models of spiritual QoL were examined with the aim of identifying the 'best' model. First, we examined evidence for spiritual QoL as an overarching perspective i.e. as a super-ordinate construct covering the other five QoL domains. In this model, each domain would be expected to have a spiritual component, and to contribute significantly to SRPB. If this model was not confirmed as predicted, then it would be possible to test whether SRPB was a significant and distinctive domain, independent from the other five, and equivalent to them. An alternative model would be where spiritual QoL components (facets) would be subsumed within other domain(s), most plausibly the psychological or social domains, as predicted by previous studies. If spiritual QoL was adequately assessed by the psychosocial domains, then there would be no justification for a separate spiritual domain conceptually or in measurement terms. Lastly, if domains were found to be closely associated, we expected that the unique SRPB profile would identify exactly which components (facets) reduced domain distinctiveness, so shedding light on QoL areas that contribute to ambiguity in the overall concept. An aim was to investigate the

QoL, and the importance of different aspects of QoL associated with spiritual, religious and personal beliefs in UK. Unlike other cultures e.g. Iran, USA, the UK population expresses a broad range of secular and religious beliefs, making group comparisons feasible and original.

Method

Instrument: The WHOQOL-SRPB is a subjective profile of QoL relating to health that measures 33 facets of QoL on a common metric. Twenty-five are derived from the WHOQOL-100, and extra facets on spiritual, religious, and personal beliefs (SRPB) provide a specific 'bolt-on' module to the generic instrument. A total of 132 items (four per facet) are scored in six domains: physical health, psychological, levels of independence, social relationships, environment and SRPB. General QoL and health is unscored. The WHOQOL-100 originally contained a single spiritual facet that represented a sixth domain (WHOQOL Group, 1995). Subsequent modeling of international data to derive a short-form (the WHOQOL-BREF) relocated spiritual QoL within the psychological domain for scoring purposes (WHOQOL Group,1998b) so raising questions about its theoretical status. Following further development work, the original spiritual facet was integrated with eight new SRPB facets, to form an SRPB module of nine facets (36 items) (WHOQOL-SRPB Group, 2006). The SRPB facets assess QoL relating to spirituality, meaning of life, awe & wonder, wholeness & integration, spiritual strength, inner peace, hope & optimism, spiritual connection, and faith. In addition to rating QoL, the importance of each facet of QoL can also be rated using a 5-point interval scale. Socio-demographic and health status information is

obtained together with type and strength of predominant beliefs: atheist, spiritual, and religious. The international properties of the pilot instrument are published and internal consistency reliability is acceptable to excellent, for each domain (WHOQOL-SRPB Group, 2006). Some of the UK data used in the present study was previously included in the international analysis (n=5087), when the overall psychometric properties of the measure were established.

Sample Selection: The sampling frame was designed to cover health status x gender x age band x beliefs (2x2x2x3). Quota sampling targetted 240 respondents: 50% well/unwell, 50% fe/male and 50% age >45 years/younger <45 years. A heterogeneous sub-sample of sick people with different diseases and conditions was sought. To assess national spiritual beliefs, a unique sampling frame was constructed from UK statistics[2] about religious practices and spiritual beliefs (National Census Statistics, 2000). This indicated that the sample should include: 27% of religious, 53% spiritual and 16% atheist participants. Christianity was the most frequent religious affiliation, but numbers in non-traditional religious groups had doubled over 20 years and now included 22% of New-Age religions, Buddhists etc, so these subgroups were targeted.

Institutions were approached with the aim of maximising heterogeneous beliefs, health status, age and geographical location. They included a rural environmental design association, a 'positive living' support group for chronic pain patients, former psychiatric patients living in the community, neurological patients with epilepsy, Parkinson's disease and multiple sclerosis (administrator assistance was available). Members of 'alternative'

[2] In UK, seven million people belong to Trinitarian churches (e.g. Catholic, Anglican, Presbyterian), 0.5 m. to non-Trinitarian churches (e.g. Mormon, Jehovah's Witness); 1m. to other religions (e.g. Muslim, Sikh, Hindu, Jew).

religious movements were contacted by e-mail. A cross-section of health and social care professionals were recruited from formal settings and alternative practices; doctors, nurses, pharmacists, counselling psychologists, psychotherapists, aromatherapists, acupuncturists, shiatsu practitioners, herbalists, kinesiologists, reflexologists and social workers.

Spiritual occupations included the clergy. We approached an organisation for the lay scientific community, and community members via newspaper adverts and random telephone dialling. Participant selection was further assisted by membership lists and a telephone directory. As the instrument was standardised for use by English speakers, access to ethnic minorities was limited.

Procedure: Following informed consent, questionnaires were mailed with a stamped addressed envelope and a letter outlining the selection process, objectives, completion time and confidentiality. Successive waves of questionnaires were dispatched over 3 months in a strategy adjusted to the objective of filling the design cells. It was not possible to follow-up anonymous non-respondents as most questionnaires were dispatched by the organisations and UK data protection laws prevent the disclosure of personal information.

Statistical Analysis plan: For descriptive and interpretation purposes, it was important to compare the QoL of different beliefs groups and to know about the relative importance of the SRPB facets, so ANOVA was completed. Pearson correlations investigated associations between the variables of interest. Stepwise multiple regression analysis tested the model that spirituality is an overarching life perspective, using the SRPB domain score as the dependent (criterion) variable, and the other five domains as

independent variables. Exploratory Factor Analysis (EFA) (Varimax rotation) was conducted on each random split-half of the sample, to investigate the case for an independent SRPB domain. Factors were selected using eigenvalues >1, and scree plots. Factor loadings were interpreted as > .71 excellent, >.63 very good, >.55 good, >.45 fair and >.32 poor (Tabachnick & Fidell, 2001). Parameter estimates and pathways between variables were included in Confirmatory Factor Analysis (CFA) so as to examine the fit of data to the hypothetical model, using a least-squares solution. Heterogeneous kurtosis distribution analysis was applied. Goodness-of-fit tests assessed the acceptability and significance of the model. A Chi-square (χ^2) and Comparative Fit Index (CFI) were derived (Bentler, 1995; Bentler & Wu, 1995), and a minimum criterion of .90 applied (Bentler & Bonett, 1980). Root Mean Square Error of Approximation (RMSEA) was calculated to overcome problems of significance due to a large sample size; the acceptance criterion was >.05. A sound model is indicated by improvements to χ^2 when comparing fit for the independent and hypothesized models. This is reflected in a small non-significant value indicating little discrepancy between the two (Byrne, 1995).

Results

Sample: The scale was completed by 285 participants (37%); a further 10 were returned unknown, and 4 refused (Total sample = 299). Seventy three members of the environmental design association were recruited. The sick sample consisted of 11 chronic pain patients, 60 neurological patients, and 10 community mental health residents. Thirty members of the 'alternative' religious network replied, also 40 theologians and pastoral psychologists. Twenty community members included scientific lay-people and respondents to publicity. Forty-eight people contacted by phone returned data. The main reason for

refusal was discomfort about quantifying religious/spiritual feelings. Health professionals occasionally refused because spiritual issues were seen as a low priority

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The mean age was 47.3 years (standard deviation (SD) = 17.2) and 52.3% were women (see Table 1). Fifty % reported a chronic illness, and 36% of these were ill at the time of completion. A further 22% had recovered from a serious illness. Self-rated health for the majority (66%) was good or very good. The majority (61%) had received tertiary education, and most were married or living as married (58.5%). Forty-one % reported being spiritual (but not religious), 39% religious and 20% atheist. Christianity was the largest religious sub-group (76%). Nine % were Buddhists and 15% from other faith groups i.e. Jehovah's witnesses, shamans, pagans, Children of God. Despite, considerable efforts, we only recruited one Muslim.

Spiritual QoL and its importance to people with different types of beliefs.

Missing data was negligible (<.02%). Some facet scores were skewed but acceptable. Mean QoL ratings were used to examine differences between the three beliefs groups for 10 spiritual dimensions: the single original WHOQOL-100 spirituality facet, the 8 new SRPB facets, and a new spirituality (SRPB) domain score (VI) composed from all 9 facets. Spiritual QoL was relatively good, with religious participants reporting the highest level, then agnostics, followed by atheists (see Table 2). Five SRPB facets distinguished atheists from agnostics: spiritual connection, meaning of life, faith, awe, and wholeness. When the 24 non-spiritual WHOQOL-100 facets were examined, some differences were found,

particularly in the psychological and social domains. Religious people reported lower negative feelings and better personal relationships than agnostics.

INSERT TABLES TWO AND THREE HERE

Mean importance ratings for the eight new SRPB facets showed that they were all moderately important to important (>3.0), ranging from 3.04 for spiritual connection to 3.80 for inner peace (see Table 3). Effect sizes from ANOVAs showed consistent differences between atheist and religious groups across all SRPB facets. They were most important to religious participants, mainly important to agnostics, and least important to atheists. Religious participants saw faith and inner peace as especially important. Atheists saw five SRPB facets as unimportant, particularly spiritual connection and faith, but also meaning in life, wholeness and awe. Meaning in life and spiritual strength were moderately important for atheists and agnostics. Importance scores for SRPB facets distinguish well between contrasting beliefs groups, and provide evidence of discriminant validity for the UK instrument.

Is spiritual QoL an overarching influence on all other domains of QoL?

This hypothesis would be confirmed if all five 'non-spiritual' domains made a significant contribution to variance in the SRPB domain. Stepwise multiple regression showed that only two out of five domains were entered as significant into the model, explaining 26% of spiritual QoL. Psychological QoL made the biggest contribution (adj. Rsq. = 22. 2%), followed by environmental QoL (adj. Rsq. = 4%). It is notable that the social domain was not entered as significant. There was therefore little evidence to support the view of spiritual QoL as an overarching influence on every domain of QoL.

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Does spiritual QoL make a significant contribution to overall QoL? If so, does it represent an independent domain, or are its components incorporated into the psychological and/or social domains?

These questions were addressed together. The models were compared using EFA to examine domains and focus on the location of SRPB facets within these domains. Model results were very similar in the two halves of the data, and a six-factor solution was confirmed explaining a substantial 70.2% of the variance in QoL (see Table 4). Factor1 (F1) explained 18.5% of the variance and contained excellent loadings on physical QoL and independence. F2 represented a spiritual domain explaining 16.8% of the variance, integrating all eight new SRPB facets with the ninth original spiritual facet. Essentially, F3 combined psychosocial issues (14.6%) of positive and negative feelings, cognitions, self-esteem, social support and personal relationships with an environment facet on information and skills. An environmental factor (F4) contained physical safety, home environment, physical environment and financial resources. Sex-life was the single important loading in F5, and F6 represented body image and appearance.

The first three factors made relatively equal contributions to the model explaining around half of the total variance. Furthermore, general QoL and health loaded most highly onto these three. The results therefore support the view that SRPB makes a distinctive contribution to overall QoL that is equivalent to the two other most important domains. However, not all designated facets contributed to SRPB. Although seven showed good to excellent loadings, two on hope and peace had a fair association with the spiritual factor (F2), and to a lesser extent, the psychosocial factor (F3), showing that they have the

strongest affinity with spiritual QoL. Psychological, social, and spiritual domains are therefore not completely independent because particular facets are closely associated with more than one domain and contribute to conceptual ambiguity.

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Finally, CFA was used to find out whether all six domains loaded onto a single factor - a hypothetical QoL construct - as theoretically expected. In particular, this model would show the size of any SRPB contribution. The model was run on each half of the data and was duplicated, showing acceptable solutions with very similar fit indices. The CFI was very good at .99; χ^2 values showed improvements for this model (358.72, $p < 0.002$) over the independence model (12643.41)(df =496), and the RMSEA was acceptable ($p < .001$). Figure 1 shows that the contribution of the SRPB domain to QoL was acceptable and significant ($\beta = .68$), although smaller than the other domains. Consequently a QoL model that includes distinctive spiritual, psychological and social domains is well supported. However hope and peace facets were excluded from SRPB in the EFA, and so did not contribute significantly to spiritual QoL, as expected. However it is noteworthy that neither of these two facets contributed significantly to the psychological nor the social domain.

Discussion

In this study we completed a comparative analysis of models looking at the relationship of spiritual QoL and its components to overall QoL assessment and its non-spiritual components. First, we examined whether spiritual QoL contributed to every other domain, as a superordinate construct. Then we investigated whether spiritual QoL was seen as an

integral and important part of QoL. We also inquired about whether spiritual QoL represents a distinctive stand-alone domain, or whether it forms a legitimate part of a psychological or social domain as previously suggested. If spiritual QoL was adequately covered by another domain, then this would indicate the need to delete it from assessment. Related to this we looked at whether particular components (facets) of QoL contributed to the apparently ambiguous relationship between spiritual QoL and other domains. It was expected that the novel multidimensional profile provided by the WHOQOL-SRPB would shed light on some of this conceptual confusion.

Little evidence was found to support the model of spiritual QoL as a superordinate construct that overarches all other QoL domains. Spiritual QoL contributed to the psychological and environment domains, but model confirmation required significant spiritual contributions to every domain. Instead, the collective evidence showed that spiritual QoL is an integral part of overall QoL. Furthermore, it stands distinctively and relatively equally alongside other important QoL domains. Spiritual QoL made a significant, independent contribution to overall QoL, as demonstrated by the distinctive second factor in EFA. Seven SRPB facets constituted a cohesive concept of spiritual QoL with relatively good explanatory power, and the size of this existential domain (beta = .68) was confirmed through its inclusion within the CFA model.

Goddard (2001) argued that psychosocial and spiritual issues are not interchangeable, and results from the present study support this view. Although spiritual QoL was most closely related to psychological QoL than other domains, there was no clear evidence to indicate that the psychological domain would be an adequate substitute for spiritual QoL.

Confirmation of this model would have required evidence that the substantial concept consisting of nine dimensions of spiritual QoL, could be adequately subsumed within it. However two 'spiritual' facets were quite closely associated with the psychological domain; these were hope and optimism, and inner peace. However EFA confirmed that both these facets were more strongly associated with spiritual QoL than psychological QoL, so there were no firm grounds for concluding that they had been wrongly assigned to the spiritual domain. The fair association of these two facets with two domains outside SRPB may have prevented their final inclusion as part of the SRPB domain in the final CFA. Furthermore, no evidence was found to indicate that social QoL could be an adequate substitute for spiritual QoL or that any spiritual dimensions were primarily social. The implication of this finding for assessment is that neither of these two spiritual facets belong to an alternative domain.

The weight of evidence suggests that ambiguities previously recorded between these three QoL domains may be explained by whether certain components, namely hope and peace, are included or excluded from assessments. On the evidence of the present data, hope and peace contained both spiritual and psychological properties. Which way these two issues are rated may depend upon interpretations that respondents bring to the evaluation, and the context or setting of administration. These results provide insights into the inconsistency of findings, and the opaqueness of earlier debates. If researchers selected a single dimension of spiritual QoL to measure, say hope and optimism, then the present results indicate that their results could likely show that a spiritual dimension is superfluous. Our findings therefore underscore the need to use multi-dimensional measures of spiritual QoL in future research.

However the CFA findings should not be seen to imply that hope and peace are too weak to be included in the SRPB module. The WHOQOL-SRPB Group (2006) applied consensus procedures across 18 collaborating countries when selecting facets for inclusion in the international instrument. Consequently, all facets included in the profile were not equally strong in every country. Weaker UK findings for these two facets therefore represents expected minor cultural variations within the overall concept, and do not undermine the international case for their inclusion.

Several other perspectives are important to this discussion. Firstly, the SRPB facets assessed subjective "experience", whereas previous research has tended to focus more narrowly on religious beliefs and practice. Perhaps easier to measure, religious practice is assessed through observable behaviour e.g. engaging in prayer, fasting and meditation. However, as a behaviour, attending church is not necessarily a reliable indicator of religious involvement (Levin & Vanderpool, 1987).

Secondly, Koenig et al. (2001) argue that spiritual "experience" reflects psychological health and mood, and is not a spiritual or religious belief. However, the results of the present study do not support this view. Instead they suggest that although spiritual "experience" is related to mental health, it is a distinct concept, and not synonymous with psychological state.

Thirdly, holistic care focuses largely on biopsychosocial aspects in practice, without seeking to investigate spiritual health, and this is reflected in theoretical and pragmatic shortcomings. Even though holistic approaches have been acknowledged (e.g. van Wegberg, Bacchi, Heusser, et al., 1998), at best, many practitioners still see spiritual QoL

as too confusing to be assessed, interpreted, and addressed in a busy clinic, and at worst as an unimportant outcome, irrelevant to understanding and promoting health and wellbeing. Furthermore, the predominant focus in consultations is on physical health, and as we showed, physical QoL is largely dissociated from spiritual QoL, so this could explain why health professionals ignore or dismiss spiritual QoL as irrelevant, a low priority, impracticable or a nuisance. However spiritual QoL was seen by the majority of participants as an important outcome, so this discrepancy in perceptions between patients and providers is currently an invisible barrier to good patient-centred care. Consequently, there is considerable work still to do in providing generic training to health professionals on the biopsychosociospiritual model of care, which could normalise this issue in practice.

Lastly, although some researchers see spiritual QoL assessment as too distal to the objectives of health care (Aaronson, 1991), the importance ratings showed that all SRPB facets were important or very important to QoL overall, despite expected variations between beliefs groups. Furthermore, the findings from this heterogeneous sample show that in assessing QoL outcomes, spiritual, religious and personal beliefs are appropriate and applicable beyond the health context.

The findings also point to new departures for positive psychology (Seligman & Csikszentmihalyi, 2000). Assessing spiritual QoL in the clinic means that important positive areas of QoL can be addressed, not just problems. During the development of the WHOQOL-SRPB, positive outcomes like awe and wonder, hope and optimism, inner strength and peace, were proposed for inclusion by focus groups of potential users as

important to their QoL (O'Connell & Skevington,2005) and their importance was confirmed by this study. The WHOQOL-SRPB therefore represents a new assessment frontier for investigations of positive health (Seligman, 2008).

The study sample showed that spiritual QoL could be included systematically in health-related QoL measures, and used with most clinical and non-clinical populations where self-report is feasible. This internationally designed outcome measure overcomes previous difficulties in assessing religious and secular beliefs about QoL because it was developed following interviews with people holding possibly the broadest ranges of beliefs ever studied internationally. A complex new process of translation and cultural adaptation designed by the WHOQOL Group was used to accommodate the different meanings of important QoL issues, and 'national' items could be included and assessed e.g. detachment, to complete the full concept of QoL expressed in the local culture (Skevington, 2002). The WHOQOL-SRPB therefore fills an outcomes assessment void for those who hold beliefs other than from a Judeo-Christian stand-point. This has a vital role to play in the future assessment of multi-cultural, multi-faith communities in Britain and elsewhere. Also, the results showed how multiple spiritual beliefs systems coexist, and these can now be assessed using the same measure. For instance, a very religious person may also hold strong personal beliefs about the environment Further work is needed to develop these models for other religions,e.g. Islam, and for communities holding uncommon secular beliefs. Because of its flexibility, the WHOQOL-SRPB can track changing spiritual QoL across the life-course reliably, using a common metric, and in a comprehensive way that few instruments have been able to do. For example, it could be used to record health and wellbeing for a hypothetical adult who was a Christian at 19,

a feminist at 25, a vegetarian at 39, facing menopause at 56, through three years of chronic disabling arthritis, and throughout the final six weeks of life. By tying spiritual QoL exclusively to religion, researchers have missed the rich scientific opportunities to comprehensively investigate diverse areas of that person's spiritual quality of life in health, so these types of assessment are urgently needed.

There were several limitations to this study. Resources did not allow for the collection of a representative sample, for the random selection of organisations or randomisation within sites, so bias is a potential issue. Slightly more religious people participated than were targeted, suggesting greater motivation to respond. We could not sample non-Anglophone ethnic groups in Britain as other language versions of the WHOQOL-SRPB were unavailable at that time. Although seriously ill people were included, they were not representative of the sick population generally. The response rate for this survey was quite low as the lengthy questionnaire made completion burdensome, so deriving a streamlined short-form is an imperative.

In conclusion, research on spiritual QoL in health is in its early stages, but has been made more feasible in measurement and conceptual terms through the availability of the WHOQOL-SRPB. The findings confirm that spiritual QoL makes a distinctive, significant contribution to overall QoL, supporting the case for greater acceptance and better integration into mainstream health practice and research. Furthermore, spiritual QoL is confirmed as a concept that is neither psychological nor social in nature but a distinctive, important entity in its own right. It need not be conceptualised or operationalised in terms of blunter 'objective' indicators like frequency of religious attendance, but is readily accessible through subjective self-reports. Our results show that

health researchers and practitioners need no longer shy away from assessing QoL outcomes relating to spiritual, religious and personal beliefs, as they offer a more "holistic" person-centred assessment that can serve the provision of holistic care needed to address body, mind and spirit. Evidence of its full application remains scarce.

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Table 1: Sociodemographic, health and belief characteristics of the total sample.

Variable	Category	Number	Percentage
Gender	Men	135	47.7
	Women	148	52.3
Educational level	Primary	6	2.1
	Secondary	104	36.7
	University	100	35.3
	Postgraduate	73	25.8
Marital status	Single	79	28.0
	Married	130	46.1
	Living as married	35	12.4
	Separated	7	2.5
	Divorced	12	4.2
	Widowed	19	6.7
How is your health	Very poor	5	1.8
	Poor	31	11.1
	Neither good nor poor	59	21.1
	Good	123	43.9
	Very good	62	22.1
Are you ill now	Yes	101	36.1
	No	179	63.9
Diagnosis	Heart problems/stroke	5	5.2
	High blood pressure	1	1.0
	Arthritis/rheumatism	7	7.2
	Emphysema/bronchitis	3	3.1
	Diabetes	3	3.1
	Broken/fractured bone	2	2.1
	Chronic emotional probs.	6	6.2
	Parkinson's disease	22	22.7
	HIV	1	1.0
	Multiple sclerosis	8	8.2
	Epilepsy	14	14.4
	Other illness e.g. cataract	25	25.8
Chronic Illness	Yes	138	50.5
	No	135	49.5
Recovered	Yes	63	22.3
	No	204	72.1
Health Professional	Yes	40	14.5
	No	236	85.5
Religious person	Not at all	81	29.1
	Slightly	52	18.1
	Moderately	78	28.1
	Very	42	15.1
	Extremely	25	9.0
Belong to religious community	Not at all	125	45.0
	A little	56	20.1
	Moderately	29	10.4
	Mostly	35	12.6

	Completely	33	11.9
Spiritual beliefs	Not at all	42	15.1
	Slightly	45	16.2
	Moderately	67	24.1
	Very	71	25.6
	Extremely	53	19.1
Strong personal beliefs	Not at all	8	2.9
	Slightly	13	4.7
	Moderately	76	27.2
	Very	129	46.2
	Extremely	53	19.0
Do you practice beliefs	Not at all	48	17.9
	Slightly	63	23.0
	Moderately	62	22.6
	Very	48	17.5
	Extremely	52	19.0
Beliefs category	Atheist	56	20.4
	Agnostic	113	41.1
	Religious	106	38.4
Religion	Christian	88	71.0
	Jewish	3	2.6
	Hindu	2	1.6
	Buddhist	11	8.9
	Muslim	1	1.3
	Other	19	15.3

Table 2: Comparing Quality of Life in three Beliefs groups on dimensions of the WHOQOL-SRPB.

Facets & Domains	Atheist n=55	Agnostic n=122	Religious n=102	F.	P	Atheist vs Agnostic	Agnostic vs Relig.	Atheist vs Relig.
1. Pain & Discomfort	3.58 (0.72)	3.54 (0.68)	3.5 (0.75)	0.15	.86			
2. Energy & Fatigue	3.14 (0.85)	3.23(0.79)	3.28 (0.80)	0.52	.60			
3. Sleep & Rest	3.91 (0.86)	3.81 (0.95)	3.74 (0.85)	0.60	.55			
4. Positive Feelings	**3.46 (0.69)**	**3.49 (0.64)**	**3.61 (0.75)**	**1.12**	**.33**			
5. Cognitions	**3.50 (0.73)**	**3.36 (0.70)**	**3.48 (0.73)**	**0.98**	**.38**			
6. Self-Esteem	**3.42 (0.68)**	**3.35 (0.66)**	**3.41 (0.70)**	**0.32**	**.73**			
7. Body Image	**3.67 (0.76)**	**3.63 (0.69)**	**3.83 (0.72)**	**2.02**	**.13**			
8. Negative Feelings	**3.66 (0.78)**	**3.49 (0.75)**	**3.81 (0.85)**	**4.30**	**.01**		**	
9. Mobility	4.23 (1.60)	3.99 (0.96)	3.95 (1.10)	1.38	.25			
10. Activities of daily living	3.99 (0.87)	3.79 (0.87)	3.91 (0.92)	1.10	.33			
11. Dependence on Medication	3.88 (1.27)	3.99 (1.13)	3.86 (1.2)	0.34	.72			
12. Working Capacity	3.75 (0.99)	3.64 (0.96)	3.69 (0.92)	0.23	.79			
13. Personal Relations	**3.78 (0.68)**	**3.69 (0.75)**	**3.99 (0.75)**	**4.83**	**.01**		**	
14. Social Support	**3.75 (0.65)**	**3.81 (0.76)**	**3.94 (0.88)**	**1.37**	**.26**			
15. Sex-life	**3.41 (0.92)**	**3.34 (0.97)**	**3.33 (1.1)**	**0.13**	**.87**			
16. Safety & Security	3.62 (0.67)	3.58 (0.60)	3.82 (0.75)	2.75	.08			
17. Home Environment	3.83 (0.58)	3.81 (0.70)	3.88 (0.65)	2.20	.04		*	
18. Financial Resources	3.63 (0.85)	3.35 (0.94)	3.50 (0.92)	1.15	.02	*		
19. Health & Social Care	3.48 (0.49)	3.44 (0.51)	3.57 (0.52)	3.03	.04		*	
20. Information & Skills	3.75 (0.64)	3.79 (0.58)	3.80 (0.72)	0.26	.77			
21. Leisure & Recreation	3.50 (0.69)	3.44 (0.66)	3.53 (0.71)	0.49	.61			
22. Physical Environment	3.51 (0.63)	3.46 (0.66)	3.75 (0.68)	2.53	.04		*	
23. Transport	3.95 (0.91)	3.72 (0.91)	3.89 (0.95)	1.53	.22			
24. Spirituality+	**3.29 (0.77)**	**3.39 (0.86)**	**4.07 (0.91)**	**21.04**	**.001**		***	
25. General QoL & Health	**3.67 (0.86)**	**3.60 (0.80)**	**3.79(0.88)**	**1.30**	**.27**			
SRPB Facets								
Spiritual Connection+	**2.11 (1.00)**	**2.63 (1.12)**	**3.64 (0.80)**	**45.85**	**.001**	**	***	***
Meaning of Life+	**2.82 (0.75)**	**3.22 (0.69)**	**3.65 (0.77)**	**18.81**	**.001`**	**	***	**

Awe & Wonder+	**3.49 (0.63)**	**3.90 (0.63)**	**3.85 (0.77)**	**8.03**	**.0001**	*		*
Wholeness & Integration+	**3.19 (0.62)**	**3.43 (0.69)**	**3.66 (0.65)**	**8.77**	**.001**	*	***	***
Spiritual Strength+	**2.73 (0.74)**	**2.87 (0.79)**	**3.64 (0.85)**	**29.72**	**.001**		***	
Inner Peace+	**3.05 (0.73)**	**3.10 (0.64)**	**3.36 (0.82)**	**5.09**	**.01**		***	*
Hope & Optimism+	**3.30 (0.61)**	**3.36 (0.67)**	**3.60 (0.66)**	**5.35**	**.01**		***	**
Faith+	**2.06 (0.85)**	**2.49 (1.04)**	**3.61 (0.73)**	**58.78**	**.0001**	**	***	**
Domains								
I Physical	14.16(0.37)	14.12 (0.39)	14.14 (0.40)	0.01	.99			
II Psychological	**14.19(0.39)**	**13.84 (0.45)**	**14.49 (0.38)**	**2.20**	**.11**			
III Independence	15.85(0.54)	15.41 (0.62)	15.47 (0.53)	0.31	.73			
IV Social Relations	**14.69(0.63)**	**14.48 (0.64)**	**14.99 (0.75)**	**1.03**	**.36**			
V Environment	14.52(0.46)	14.32 (0.39)	15.07 (0.50)	3.87	.07			
VI SRPB Module	**11.25(0.58)**	**12.24 (0.62)**	**14.75 (0.52)**	**36.39**	**.001**		***	***

Key:
Predictions marked in **bold**
* p=0.05; ** p=0.01; *** p=0.001
+ Nine facets contributing to new SRPB domain (VI)

Table 3. Importance of SRPB facets to beliefs groups.

	Total Mean *(SD)*	Atheist Mean (SD)	Agnostic Mean (SD)	Religious Mean (SD)	F	df	p	Atheist vs Agnostic Effect size δ (95% CI)	p	Agnostic vs Religious Effect size δ (95% CI)	p	Atheist vs Religious Effect size δ (95% CI)	p
Spiritual Connection	*3.04 (1.4)*	2.25 (1.5)	2.76 (1.3)	3.77 (1.1)	31.39	2	.001	1.25 (.90 - 1.60)	.015	.87 (.59- 1.15)	.001	.37 (.05 - .70)	NS
Meaning in Life	*3.40 (1.3)*	2.91 (1.5)	3.22 (1.2)	3.91 (0.9)	16.84	2	.001	.23 (-.09 - .53)	NS	.67 (.40 - .94)	.001	.87 (.53 - 1.21)	.001
Awe	*3.19 (1.2)*	2.53 (1.2)	3.19 (1.2)	3.53 (1.0)	15.04	2	.001	.33 (-.09 - .56)	.001	.30 (.04 – .57)	.001	.93 (.56 - 1.27)	.01
Wholeness & Integration	*3.43 (1.2)*	2.94 (1.4)	3.35 (1.1)	3.80 (1.0)	13.75	2	.001	.33 (.01 - .65)	.05	.42 (.16 - .69)	.001	.74 (.40 - 1.07)	.001
Spiritual Strength	*3.53 (1.2)*	3.04 (1.5)	3.45 (1.1)	3.89 (0.9)	25.11	2	.001	.32 (.00 - .65)	NS	.42 (.16 - .69)	.02	.74 (.40 - 1.07)	.001
Hope & Optimism	*3.45 (1.1)*	3.08 (1.3)	3.27 (1.0)	3.85 (0.9)	12.51	2	.001	.17 (-.15 - .49)	.03	.59 (.32 - .86)	.001	.72 (.39- 1.06)	.001
Faith	*3.21 (1.4)*	2.37 (1.5)	2.83 (1.3)	4.06 (1.0)	38.71	2	.001	.34 (.02 - .66)	.23	1.07 (.79 - 1.35)	.001	1.44 (1.08 – 1.8)	.001
Inner Peace	*3.80 (1.0)*	3.38 (1.2)	3.81 (1.0)	4.05 (0.8)	8.72	2	.05	.41 (.08 - .75)	.05	.27 (.00 - .53)	NS	.66 (.29 – 1.04)	.001

Notes: SD = standard deviation; NS = not significant at $p < .05$; CI = confidence interval
Range of ratings: 1 = not at all important to 5 = very important

Table 4: Exploratory Factor Analysis for the WHOQOL-SRPB in UK.

Facets (Domain)	Physical (F1)	Spiritual (F2)	Psycho-social (F3)	Environ-ment (F4)	Sex-life (F5)	Body image (F6)
Pain (Ph)	**0.84**		0.23	0.11		
Energy (Ph)	**0.77**		0.37			
Sleep (Ph)	**0.59**			0.20	0.35	0.41
Pos. Feelings (Ps)	0.35	0.43	**0.60**	0.14	0.41	
Cognitions (Ps)	0.45		**0.64**	0.13		
Self-Esteem (Ps)	0.50	0.17	**0.68**			0.13
Body Image (Ps)	0.34	0.18	0.19	0.27		**0.59**
Neg. Feelings (Ps)	0.26	0.13	**0.69**	0.24	0.15	0.20
Mobility (In)	**0.81**		0.18	0.11		-0.16
Activities (In)	**0.79**	0.22	0.35	0.10	0.11	
Medication (In)	**0.77**	0.24	-0.15		0.26	
Work Capacity (In)	**0.69**	0.18	0.37		0.30	
Personal Relations (So)	0.18	0.14	**0.66**	0.35	0.37	-0.11
Support (So)	0.15		**0.56**	0.46	0.39	-0.11
Sex-life (So)	0.18		0.27	0.11	**0.74**	0.15
Physical Safety (En)	0.27	0.21		**0.61**	0.27	
Home Environm't (En)		0.23	0.34	**0.66**		
Finance:Resource (En)	0.17	0.13		**0.74**		0.26
Access to Care (En)	0.27	0.21	0.10	0.34	-0.11	-0.54
Information/Skills(En)	0.38	0.22	**0.46**	0.16	0.24	-0.27
Recreation (En)	0.32	0.35	0.37	0.18	0.45	
PhysicalEnvironmt(En)		0.20	0.38	0.58		
Transport (En)	0.30	0.13		0.48	0.45	-0.21
Spirituality (Sp)	0.25	**0.83**	0.13		0.19	
General QoL/Health	**0.56**	**0.30**	**0.42**	**0.28**	**0.29**	
Spirit. Connection(Sp)		**0.86**		0.29		-0.12
Meaning in Life (Sp)		**0.81**	0.22	0.13	0.13	
Awe & Wonder (Sp)		**0.58**				
Wholeness (Sp)	0.13	**0.63**	0.33		0.22	0.24
Spirit. Strength (Sp)	0.24	**0.84**	0.15		0.12	
Inner Peace (Sp)	0.13	**0.54**	0.50	0.22		0.23
Hope/Optimism (Sp)	0.29	**0.50**	0.46		0.34	
Faith (Sp)		**0.85**		0.25	-0.14	
% Total variance	**18.5**	**16.8**	**14.6**	**9.4**	**6.9**	**4.0**

Notes:

- Domains: Ph = Physical health, Ps = Psychological, In = Independence, So = Social, En= Environment, Sp= Spiritual
- F = Factor
- Largest loading for each facet shown in bold.

Figure 1. Testing the significance and independence of spiritual QoL using Confirmatory Factor Analysis.
(β coefficients)